

Appl. No.: 10/574,046
International Appl. No. PCT/US2004/011965
International Filing Date: April 16, 2004
Amdt. Dated January 31, 2007

Amendments to the Claims:

1. (Original) A purified polypeptide consisting of an amino acid sequence selected from the group consisting of:

- a) the amino acid sequence set forth in SEQ ID NO:6;
- b) the amino acid sequence set forth in SEQ ID NO:7;
- c) the amino acid sequence set forth in SEQ ID NO:8;
- d) the amino acid sequence set forth in SEQ ID NO:9; and
- e) the amino acid sequence set forth in SEQ ID NO:10.

2. (Original) A purified polypeptide consisting of an amino acid sequence selected from the group consisting of:

- a) the amino acid sequence set forth in SEQ ID NO:1;
- b) the amino acid sequence set forth in SEQ ID NO:2;
- c) the amino acid sequence set forth in SEQ ID NO:3;
- d) the amino acid sequence set forth in SEQ ID NO:4; and
- e) the amino acid sequence set forth in SEQ ID NO:5.

3. (Original) The purified polypeptide of claim 1, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:6.

4. (Original) The purified polypeptide of claim 1, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:7.

5. (Original) The purified polypeptide of claim 1, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:8.

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6. (Original) The purified polypeptide of claim 1, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:9.

7. (Original) The purified polypeptide of claim 1, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:10.

8. (Original) The purified polypeptide of claim 2, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:1.

9. (Original) The purified polypeptide of claim 2, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:2.

10. (Original) The purified polypeptide of claim 2, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:3.

11. (Original) The purified polypeptide of claim 2, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:4.

12. (Original) The purified polypeptide of claim 2, wherein said polypeptide consists of the amino acid sequence set forth in SEQ ID NO:5.

13. (Original) A purified polypeptide consisting of a signal peptide operably linked to an amino acid sequence selected from the group consisting of:

- a) the amino acid sequence set forth in SEQ ID NO:6;
- b) the amino acid sequence set forth in SEQ ID NO:7;
- c) the amino acid sequence set forth in SEQ ID NO:8;
- d) the amino acid sequence set forth in SEQ ID NO:9; and
- e) the amino acid sequence set forth in SEQ ID NO:10.

14. (Original) The purified polypeptide of claim 13, wherein said signal peptide is a plant signal peptide.

15. (Original) The purified polypeptide of claim 13, wherein said signal peptide is a mammalian signal peptide.

16. (Original) The purified polypeptide of claim 1, wherein said polypeptide is recombinantly produced in a host cell.

17. (Original) The purified polypeptide of claim 16, wherein said host cell is selected from a mammalian cell, a plant cell, an insect cell, a yeast cell, and a prokaryotic cell.

18. (Original) The purified polypeptide of claim 17, wherein said host cell is a plant cell.

19. (Original) The purified polypeptide of claim 18, wherein said plant cell is a duckweed cell.

20. (Original) The purified polypeptide of claim 17, wherein said polypeptide is recombinantly produced in a host cell.

21. (Original) The purified polypeptide of claim 20, wherein said host cell is selected from a mammalian cell, a plant cell, an insect cell, a yeast cell, and a prokaryotic cell.

22. (Original) The purified polypeptide of claim 21, wherein said host cell is a plant cell.

23. (Original) The purified polypeptide of claim 22, wherein said plant cell is a duckweed cell.

24. (Original) A composition comprising the purified polypeptide of claim 1 and a pharmaceutically acceptable carrier.

25. (Original) A composition comprising the purified polypeptide of claim 2 and a pharmaceutically acceptable carrier.

26. (Original) A composition comprising two or more purified polypeptides selected from the group consisting of:

- a) the amino acid sequence set forth in SEQ ID NO:6;
- b) the amino acid sequence set forth in SEQ ID NO:7;
- c) the amino acid sequence set forth in SEQ ID NO:8;
- d) the amino acid sequence set forth in SEQ ID NO:9; and
- e) the amino acid sequence set forth in SEQ ID NO:10.

27. (Original) The composition of claim 28, wherein said composition comprises three or more purified polypeptides selected from the group consisting of:

- a) the amino acid sequence set forth in SEQ ID NO:6;
- b) the amino acid sequence set forth in SEQ ID NO:7;
- c) the amino acid sequence set forth in SEQ ID NO:8;
- d) the amino acid sequence set forth in SEQ ID NO:9; and
- e) the amino acid sequence set forth in SEQ ID NO:10.

28. (Original) The composition of claim 27, wherein said composition comprises four or more purified polypeptides selected from the group consisting of:

- a) the amino acid sequence set forth in SEQ ID NO:6;
- b) the amino acid sequence set forth in SEQ ID NO:7;
- c) the amino acid sequence set forth in SEQ ID NO:8;

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- d) the amino acid sequence set forth in SEQ ID NO:9; and
- e) the amino acid sequence set forth in SEQ ID NO:10.

29. (Original) The composition of claim 28, wherein said composition comprises five or more purified polypeptides selected from the group consisting of:

- a) the amino acid sequence set forth in SEQ ID NO:6;
- b) the amino acid sequence set forth in SEQ ID NO:7;
- c) the amino acid sequence set forth in SEQ ID NO:8;
- d) the amino acid sequence set forth in SEQ ID NO:9; and
- e) the amino acid sequence set forth in SEQ ID NO:10.

30. (Original) An isolated polynucleotide encoding the polypeptide of claim 1.

31. (Original) An isolated polynucleotide encoding the polypeptide of claim 2.

32. (Original) An isolated polynucleotide encoding the polypeptide of claim 13.

33. (Original) An expression cassette comprising the isolated nucleic acid molecule of claim 30.

34. (Original) A host cell comprising the expression cassette of claim 33.

35. (New) A polypeptide comprising a biologically active interferon, wherein said interferon contains a carboxy terminus truncation.

36. (New) The polypeptide of claim 35, wherein the interferon is α -2b-interferon.

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37. (New) The polypeptide of claim 35, wherein said interferon is a polypeptide consisting of 157 amino acids or 158 amino acids.

38. (New) The polypeptide of claim 35, wherein said interferon has an amino acid sequence selected from the group consisting of residues 1-157 of the amino acid sequence shown in SEQ ID NO:10, residues 1-157 of the amino acid sequence shown in SEQ ID NO:11, residues 1-158 of the amino acid sequence shown in SEQ ID NO:9, and residues 1-158 of the amino acid sequence shown in SEQ ID NO:11.

39. (New) A composition comprising the polypeptide of claim 35 and polyethylene glycol.

40. (New) A composition comprising the polypeptide of claim 35 fused to a signal peptide.

41. (New) The polypeptide of claim 35, wherein the polypeptide is plant produced.

42. (New) The polypeptide of claim 35, wherein the polypeptide is produced in a prokaryotic host.

43. (New) A pharmaceutical composition comprising the polypeptide of claim 35.

44. (New) A polynucleotide encoding a polypeptide comprising a biologically active interferon, wherein said interferon contains a carboxy terminus truncation.

45. (New) The polynucleotide of claim 44, further comprising a nucleotide sequence encoding the amino acid sequence of a signal peptide.

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46. (New) The polynucleotide of claim 45, wherein the nucleotide sequence that encodes the amino acid sequence of a signal peptide is operably linked to the 5' end of a nucleotide sequence encoding said biologically active interferon.

47. (New) The polynucleotide of claim 44, wherein the interferon is a polypeptide consisting of 157 amino acids or 158 amino acids.

48. (New) The polynucleotide of claim 44 with a sequence selected from the group consisting of nucleotides encoding residues 1-157 of the amino acid sequence shown in SEQ ID NO:10, nucleotides encoding residues 1-157 of the amino acid sequence shown in SEQ ID NO:11, nucleotides encoding residues 1-158 of the amino acid sequence shown in SEQ ID NO:9, and nucleotides encoding residues 1-157 of the amino acid sequence shown in SEQ ID NO:11.

49. (New) An expression cassette or expression vector comprising the polynucleotide of claim 44.

50. (New) The expression vector of claim 49, wherein the vector is a plasmid.

51. (New) A host cell comprising the expression cassette or expression vector of claim 49.

52. (New) The host cell of claim 51, wherein the host cell is selected from the group consisting of a plant cell, a mammalian cell, a bacterial cell, and a yeast cell.

53. (New) A method for producing a polypeptide comprising a biologically active interferon, wherein said interferon contains a carboxy terminal truncation, said method comprising transforming a plant with the expression cassette or expression vector of claim 49.

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54. (New) The method of claim 53, further comprising recovering the polypeptide from the plant.

55. (New) The method of claim 53, wherein the expression cassette or expression vector further comprises a nucleotide sequence that encodes the amino acid sequence of a signal peptide.

56. (New) The method of claim 53, comprising stably incorporating the expression cassette into the genome of the plant.

57. (New) A method for producing a polypeptide comprising a biologically active interferon, wherein said interferon contains a carboxy terminal truncation, said method comprising culturing the host cell of claim 51 and recovering the polypeptide from the host cell.

58. (New) A polypeptide produced by the method of claim 53.

59. (New) A polypeptide produced by the method of claim 57.

60. (New) A plant comprising the expression cassette or expression vector of claim 49.

61. (New) The plant of claim 60, wherein the expression cassette is stably incorporated into the plant genome.

62. (New) A plant comprising a biologically active interferon that contains a carboxy terminal truncation.

63. (New) A polypeptide comprising a biologically active human α -2b-interferon, wherein said human α -2b-interferon contains a carboxy terminus truncation.

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64. (New) The polypeptide of claim 63, wherein said human α -2b-interferon is a polypeptide consisting of 157 amino acids or 158 amino acids.

65. (New) The polypeptide of claim 63, wherein said human α -2b-interferon has an amino acid sequence selected from the group consisting of residues 1-157 of the amino acid sequence shown in SEQ ID NO:10, residues 1-157 of the amino acid sequence shown in SEQ ID NO:11, residues 1-158 of the amino acid sequence shown in SEQ ID NO:9, and residues 1-158 of the amino acid sequence shown in SEQ ID NO:11.

66. (New) A composition comprising the polypeptide of claim 63 and polyethylene glycol.

67. (New) A composition comprising the polypeptide of claim 63 fused to a signal peptide.

68. (New) The polypeptide of claim 63, wherein the polypeptide is plant produced.

69. (New) The polypeptide of claim 63, wherein the polypeptide is produced in a prokaryotic host.

70. (New) A pharmaceutical composition comprising the polypeptide of claim 63.

71. (New) A polynucleotide encoding a polypeptide comprising a biologically active human α -2b-interferon, wherein said human α -2b-interferon contains a carboxy terminus truncation.

72. (New) The polynucleotide of claim 71, further comprising a nucleotide sequence encoding the amino acid sequence of a signal peptide.

73. (New) The polynucleotide of claim 72, wherein the nucleotide sequence that encodes the amino acid sequence of a signal peptide is operably linked to the 5' end of a nucleotide sequence encoding said biologically active human α -2b-interferon.

74. (New) The polynucleotide of claim 71, wherein the human α -2b-interferon is a polypeptide consisting of 157 amino acids or 158 amino acids.

75. (New) The polynucleotide of claim 71 with a sequence selected from the group consisting of nucleotides encoding residues 1-157 of the amino acid sequence shown in SEQ ID NO:10, nucleotides encoding residues 1-157 of the amino acid sequence shown in SEQ ID NO:11, nucleotides encoding residues 1-158 of the amino acid sequence shown in SEQ ID NO:9, and nucleotides encoding residues 1-157 of the amino acid sequence shown in SEQ ID NO:11.

76. (New) An expression cassette or expression vector comprising the polynucleotide of claim 71.

77. (New) The expression vector of claim 76, wherein the vector is a plasmid.

78. (New) A host cell comprising the expression cassette or expression vector of claim 76.

79. (New) The host cell of claim 78, wherein the host cell is selected from the group consisting of a plant cell, a mammalian cell, a bacterial cell, and a yeast cell.

80. (New) A method for producing a polypeptide comprising a biologically active human α -2b-interferon, wherein said human α -2b-interferon contains a carboxy terminal

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truncation, said method comprising transforming a plant with the expression cassette or expression vector of claim 76.

81. (New) The method of claim 80, further comprising recovering the polypeptide from the plant.

82. (New) The method of claim 80, wherein the expression cassette or expression vector further comprises a nucleotide sequence that encodes the amino acid sequence of a signal peptide.

83. (New) The method of claim 80, comprising stably incorporating the expression cassette into the genome of the plant.

84. (New) A method for producing a polypeptide comprising a biologically active human α -2b-interferon, wherein said human α -2b-interferon contains a carboxy terminal truncation, said method comprising culturing the host cell of claim 78 and recovering the polypeptide from the host cell.

85. (New) A polypeptide produced by the method of claim 80.

86. (New) A polypeptide produced by the method of claim 84.

87. (New) A plant comprising the expression cassette or expression vector of claim 76.

88. (New) The plant of claim 87, wherein the expression cassette is stably incorporated into the plant genome.

89. (New) A plant comprising a biologically active human α -2b-interferon that contains a carboxy terminal truncation.